



September 9, 2010

- *Engineering*
- *Remediation*
- *Consulting*

Mr. James Richmond
Maryland Department of the Environment
Oil Control Program
1800 Washington Boulevard
Baltimore, Maryland 21230

**Re: Additional Pilot Test Work Plan
Winfield BP
1631 West Liberty Road
Sykesville, Maryland
MDE Case # 2006-0466-CL
MDE Facility ID# 6338**

Dear Mr. Richmond:

Environmental Alliance, Inc. (Alliance), on behalf of Tevis Oil (Tevis) is pleased to submit this Additional Pilot Test Work Plan to present the proposed activities for additional feasibility testing.

In November 2009, Alliance submitted a Work Plan to conduct Air Sparge/Soil Vapor Extraction pilot testing activities including the installation of four deep monitoring wells and three pilot testing wells. The Maryland Department of the Environment (MDE) Oil Control Program (OCP) approved the work plan in January 2010. Monitoring wells and pilot test wells were installed in April 2010 and the data was submitted in the May 2010 Quarterly Report. Pilot testing was conducted in May 2010 and the results indicate that the technology may be feasible, but based on the results of the pilot test other more cost effective alternatives are possible and should be more fully evaluated prior to full scale remedial design.

Pilot Testing Summary

An air sparge pilot test was conducted in May 2010, to evaluate the air flow characteristics in the saturated zone within the bedrock. The AS pilot test was conducted on monitoring well ASVP-2 (one of the newly installed air sparge points) and on one newly installed deep well, MW-8D (adjacent to monitoring well PW-1) in order to evaluate the feasibility of air sparge and to collect engineering data necessary for a potential remedial design. The AS pilot test results indicate a predicted radius of influence of approximately 90 feet at operating pressure of 28 psi. Although pressure and DO influence data indicate a more conservative radius of influence of 40 feet. However, the data also indicates that the influence could be indicative of pressure build up in the fractures, which could indicate that a pulsed system could work, but will take more time for clean-up. Therefore, most cost effective options are possible and are being considered.

Work Plan

Therefore, Alliance proposes to pilot test additional in-situ remediation technology that utilize air stripping, air sparging, soil flushing, direct in-situ oxidation and bioremediation. The additional pilot test will evaluate the Geotech Plume Eater™ technology, which is proposed to be installed in one monitoring

well as a pilot test location. The proposed location is monitoring well PW-1, which should allow for sufficient monitoring and an evaluation of groundwater data. The following presents the work plan for feasibility testing of the Plume Eater™, including enhanced SVE.

The Plume Eater™ consists of five technologies: air stripping, air sparging, soil flushing, direct in-situ oxidation and bioremediation. Basically, the Plume Eater™ draws impacted groundwater into the monitoring well through the Plume Eater™ device. The device introduces oxygen to the groundwater which strips away the VOCs while oxygenating the treated water before it is re-introduced (through a diffuser) deeper into the aquifer. The treatment system design is intended to create a circular pattern in the aquifer by drawing impacted groundwater into the monitoring well with discharge back into the aquifer through a diffuser. The system uses similar technology as in-well air stripping while emphasizing the enhancement of bio-remediation. The process creates a convection flow whereby groundwater is pulled toward the monitoring well rather than pushed away. (Note: other technologies re-inject water at the surface, which can create a mounding effect and could “push” the plume). The oxygen that is supplied to both the saturated zone and vadose zone promotes and enhance the natural aerobic degradation process. In addition, the device also discharges extracted vapors into the vadose zone for degradation by naturally occurring microorganisms or removal by soil vapor extraction. SVE is also been proposed during this pilot test to remove vapors that are generated. The direct removal of gasoline hydrocarbons and their additives will be beneficial in the remediation of this hydro-geological setting. Manufacturer documentation is included in Attachment I.

The Plume Eater™ is proposed to be installed in one monitoring well, monitoring well PW-1, for up to 90 days for a pilot test evaluation. PW-1 was selected as the pilot test point as this point is sufficiently surrounded by existing monitoring wells and based on our preliminary evaluation we anticipate this monitoring well, PW-1 may serve as the full scale remedial treatment well. The possibility exists that only a 30 day pilot test will be needed based on the data collected. Alliance will verbally communicate the status of the pilot test with the MDE. In addition, a one horsepower SVE blower will also be connected to monitoring well PW-1 for SVE. The SVE system will be connected and operating as long as the pilot test is conducted.

Groundwater samples will be collected from monitoring wells PW-1 and MW-8D as outlined below:

- ◆ Initial, at start-up;
- ◆ Two weeks after start-up;
- ◆ One month after start-up; and
- ◆ Every 30 days for the remainder of the test.

Groundwater samples will be analyzed for full suite VOCs including oxygenates in accordance with EPA Method 8260. In addition, quarterly groundwater samples will continue to be collected from the monitoring well network in accordance with MDE directives.

To further monitor the effect of the technology, Alliance will also collect field monitoring parameters weekly for the first month, and monthly, thereafter. At a minimum, depth to water, pH, temperature, dissolved oxygen, and ORP (redox potential) will be measured at all site monitoring wells. The field monitoring data will assist in measuring the oxidant level of the aquifer, which coupled with dissolved hydrocarbon results will dictate the scheduling/need for continued pilot testing activities.

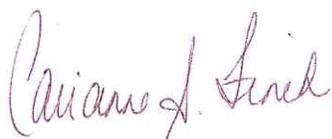
As presented above, SVE will also be used to address petroleum related compounds within the vadose zone. The approach will be monitored via the quarterly sampling events. While operating the SVE

equipment, vacuum response will be measured in each of the monitoring points and monitoring wells surrounding monitoring well PW-1 (Figure 1). The vacuum response data will be presented in each summary report along with the distance each monitoring point was from the extraction points(s). The vacuum response data collected will also be presented.

During the monitoring events, VOC concentrations in the extracted air will be monitored with a PID and a Tedlar bag sample will be collected for analysis. The air samples will be analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl-tertiary butyl-ether (MtBE) and also for total petroleum hydrocarbon (TPH) fractions for C₁ through C₄ range and C₅ through C₁₀ range organics. In addition air velocity measurements will be collected to determine air flow from the subsurface. This data will be used to calculate mass removal and will be summarized in each summary report.

Within 30 days of work plan approval, Alliance can implement the pilot test activities. If you have any questions or further information is required, please contact Bill Smith at (302) 234-4400 or myself at (410) 729-9000. Thank you for your time.

Sincerely,
ENVIRONMENTAL ALLIANCE, INC.



Carianne A. Finch
Professional Engineer



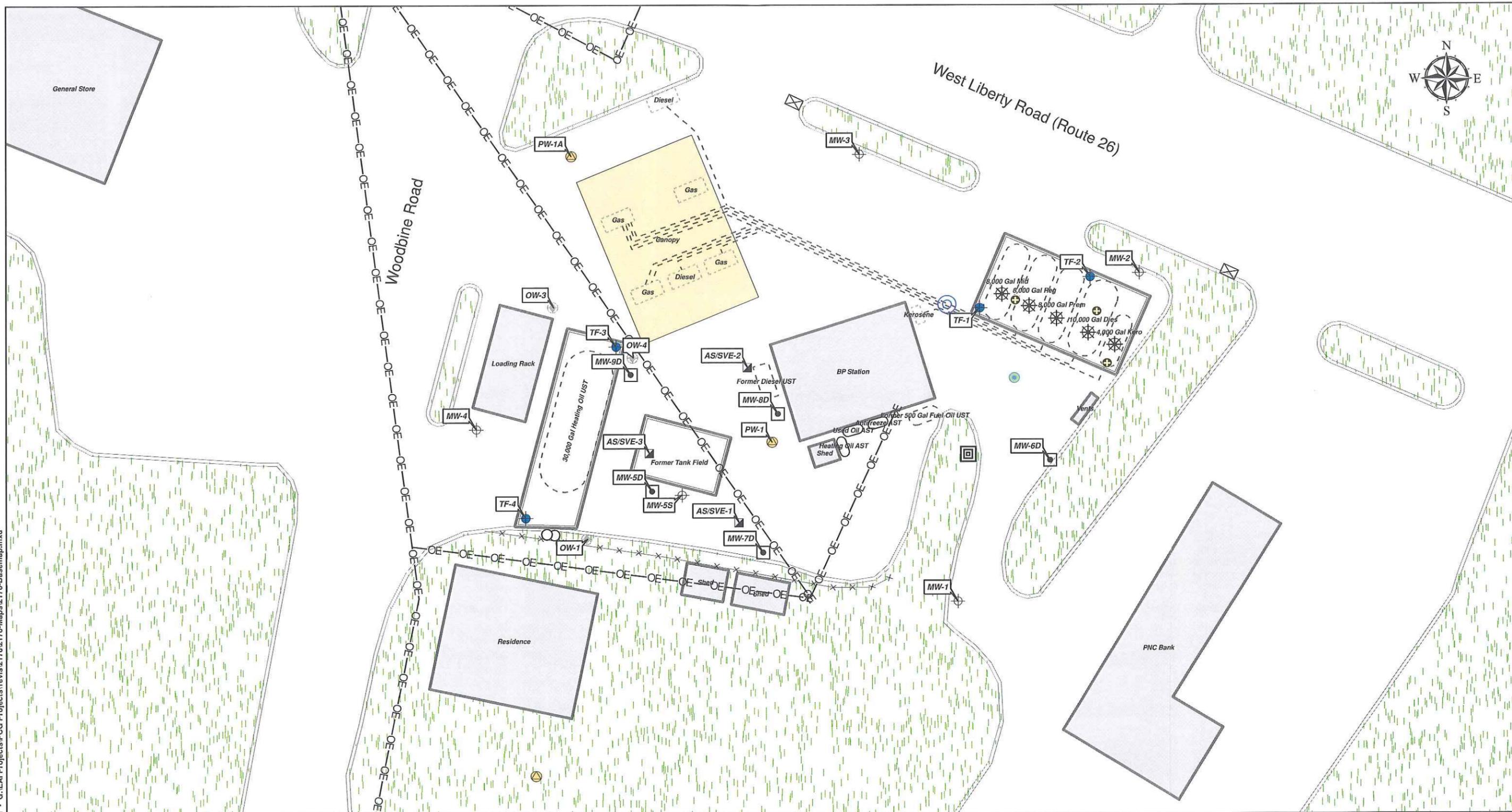
William Smith, P.G.
Principal Geologist

Figure 1 Site Base Map
Attachment I Plume Eater™ Manufacturer Documentation

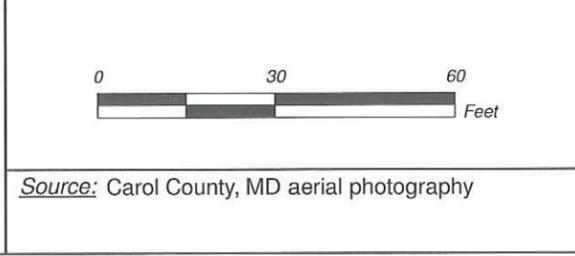
- c: Mr. Tim Watkins, Tevis Oil, Inc.
- Ms. Susan Bull, MDE – Oil Control (two copies and CD)
- Mr. Edwin F. Singer, Carroll County Department of Health
- Mr. John Grace, MDE-Water Supply Program
- Mr. Warren Fox, Xcel Insurance

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Friday, June 4, 2010 11:46:00 AM - G:\EAI Projects\PCG Projects\Tevis\2178\2178-Maps\2178-Basemap.mxd



Legend	
	Shallow Monitoring Well
	Deep Monitoring Well
	Tank Field Well
	Abandoned Well
	Potable Well
	AS/SVE Location
	Fill Valve
	Vapor Recovery
	Vent
	Grease Trap
	Sanitary Cleanout
	Transition Sump
	Catch Basin
	Curb/Edge of Pavement
	Fence
	Overhead Electric
	Product Line
	Building
	Canopy
	Dispenser
	Tank Field
	UST
	AST
	Vegetation



Environmental Alliance, Inc.
 1035 Benfield Blvd., Suite H, Millersville, MD 21108
 Phone: (410) 729-9000 - Fax: (410) 729-9001

Winfield BP 1631 West Liberty Road Sykesville, Maryland 21784 Site Base Map			
DESIGNED BY: CAF	DRAWN BY: SKJ	UPDATED BY: ---	FIGURE NO.:
APPROVED BY: 	PROJECT NO.:	DATE:	1
	2187	06/04/2010	

ATTACHMENT I

Insitu Remediation Systems

Geotech Plume Eater

The Geotech Plume Eater is a patented insitu remediation system. Unlike other commercially marketed in-well air strippers or circulation type systems, the Plume Eater's process is unique. When pulling in contaminated groundwater, it strips away the VOCs while oxygenating the treated water before it is re-introduced deep into the formation. This process creates a convection flow whereby groundwater is pulled toward the recovery well rather than pushed away, as compared to other similar types of systems and processes.

FEATURES

- Soils are flushed with oxygenated ground water
- Pulls from the groundwater surface and re-injects, oxygenated water deep in the formation, creating convection currents
- Accelerates bio-remediation
- Maximum efficiency with minimal power
- No sub-surface moving parts
- Works in a variety of soil types
- No net change in groundwater volume
- Options available for use with other gases
- **INSITU TECHNOLOGY** – No re-injection permits or water treatment extraction required, water never leaves the subsurface.

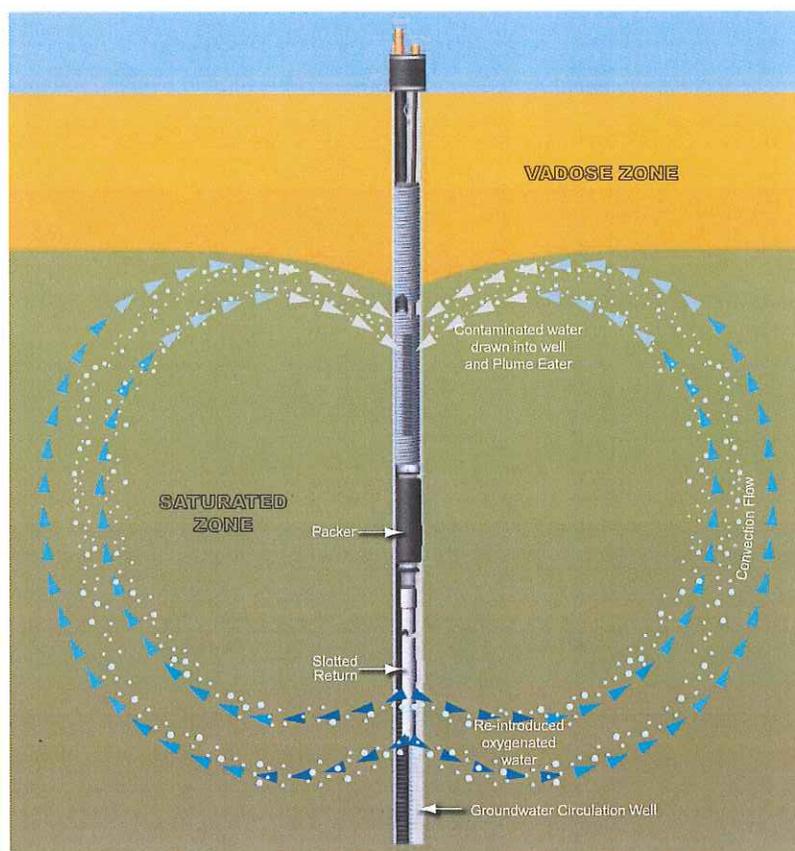
OPERATION

Plume Eater creates a circulation pattern in the aquifer by drawing contaminated water into well and through the Plume Eater. The oxygenated water is reintroduced into the aquifer without ever being brought to the surface; throughout the process.

The system uses similar technology as in-well air stripping while emphasizing the enhancement of bio-remediation. The process involves the discharge of extracted vapors into the vadose zone for degradation by naturally occurring microorganisms or removal by soil vapor extraction. Oxygen is supplied to both the saturated zone and the vadose zone to promote and enhance the natural aerobic degradation processes.



Patent 7007759,7077208
Other patents pending.



Geotech Plume Eater System

CALL GEOTECH TODAY (800) 833-7958

Geotech Environmental Equipment, Inc.

2650 East 40th Avenue • Denver, Colorado 80205

(303) 320-4764 • (800) 833-7958 • FAX (303) 322-7242

email: sales@geotechenv.com website: www.geotechenv.com

Insitu Remediation Systems



Geotech Plume Eater

4" Geotech Plume Eater



SPECIFICATIONS

	2" Plume Eater	4" Plume Eater
Air Requirements (PSIG):	5-35	5-35
Air Requirements (SCFM):	1-5	1-5
Minimum Required Submergence:	8 feet	8 feet
Maximum Outer Housing Depth:	35 feet	50 feet
Materials:		
Outer Housing	Flexible, spiral wound, Schedule 40 PVC	
Air Line	Reinforced, chemical resistant gas hose	
Packer Inflation Line	Reinforced, chemical resistant gas hose	
Treated Water Return Line	2" Model – Reinforced, chemical resistant gas hose 4" Model – Flexible, spiral wound, Schedule 40 PVC	
Packer	#300 stainless steel, Viton®	
Well Cap	PVC, rubber, brass and stainless steel fittings	
Safety Cable	Teflon® coated stainless steel	
Diffuser (Optional)	Porous stainless steel	
Bag Filter Assembly (Optional)	Stainless steel, PVC, Nylon	

OPTIONAL EQUIPMENT



.2µm and .5µm Diffusers



2" and 4" Bag Filter Assemblies

BENEFITS

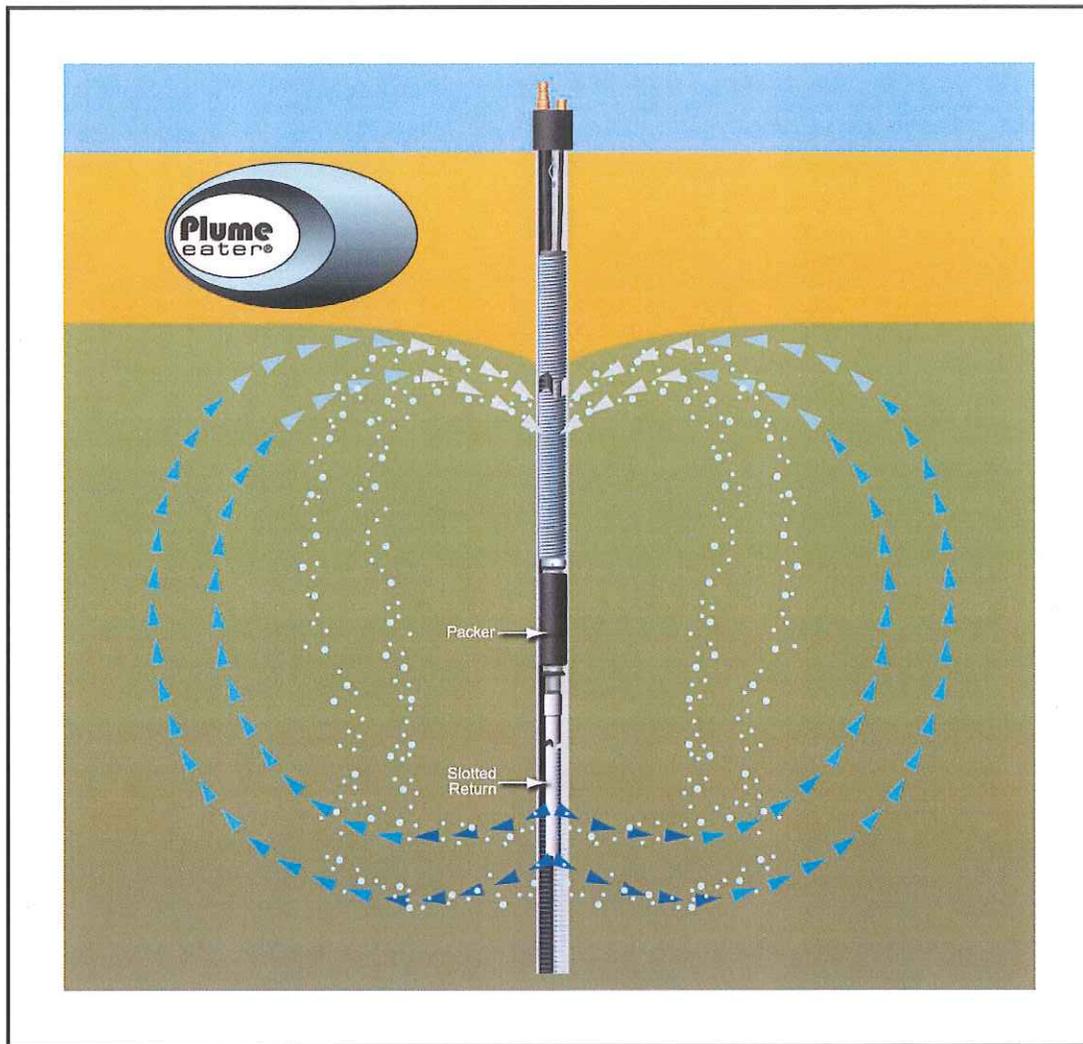
- Volume Cleaned by Air Stripping** Groundwater carried into the unit by cylindrical convector currents and from the rising bubble cone above discharge point, and surrounding soils flushed by cylindrical convection currents.
- Volatilization** Occurs from channels formed in formation and from groundwater transported into unit.
- Convection Currents** Pulls from groundwater's surface, towards the unit, and re-injects cleaned oxygenated water, deep under the surface, and away from the unit.
- Radius of Influence** Similar design application – 175 feet (formation permeability dependent).*
- Oxygen Mass Transfer Rates** Diffusion from formation air channels into adjacent groundwater, direct transfer from air into groundwater inside unit.
- Soil Applicability** High to moderately porous/permeable soils..
- Vapor Recovery** Does not require separate vapor extraction system.
- Soil Flushing** Continuous groundwater movement.
- Diffused Ozone (Optional)** Ozone transferred to soils by continuous flushing with cleaned, ozone saturated groundwater, into cylindrical pattern of convection currents, and by molecular diffusion.
- Low Power Use** Greater oxygen transfer efficiencies require significantly less power.
- Targetability** Cleans everywhere the flushing convection currents wash the surrounding soils. Recovery and injection trenches, to and from the unit, can focus remediation in distant regions of the plume.
- Exempted Re-Injection Standards** As treated water is not elevated above the ground's surface, and no net change in groundwater volume occurs, exempted from re-injection standards by EPA (non-targeted pollutants do not need to be removed).

*A.C. Elmore and L. DeAngelis "Modeling a Groundwater Circulation Well Alternative," Ground Water Monitoring and Remediation, Winter-2004, pg. 66 to 73.

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email: sales@geotechenv.com website: www.geotechenv.com

Plume Eater[®] Installation and Operation Manual



Patent Number(s): 7007759,7077208
Other Patents Pending

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DOCUMENTATION CONVENTIONS

This manual uses the following conventions to present information:



WARNING

An exclamation point icon indicates a **WARNING** of a situation or condition that could lead to personal injury or death. You should not proceed until you read and thoroughly understand the **WARNING** message.



CAUTION

A raised hand icon indicates **CAUTION** information that relates to a situation or condition that could lead to equipment malfunction or damage. You should not proceed until you read and thoroughly understand the **CAUTION** message.



NOTES

A note icon indicates **NOTE** information. Notes provide additional or supplementary information about an activity or concept.

Chapter 1: System Description

Function and Theory:

The Geotech Plume Eater® is an In-situ remediation system, designed to provide the benefits of In-well air stripping, dissolved oxygen enhancement, pump and treat technology into a single, energy efficient product. It operates on the principle of air-lifting the groundwater within its housing, thus stripping VOC's. The treated water is oxygenated through out the treatment process, and in return is re-injected to the subsurface below the packer. The treated, oxygenated water will assist in microbial growth within the formation, further reducing existing VOC contamination. The Plume Eater® Process creates a convectional or circular current that pulls the contaminated groundwater towards the top section of the treatment well and re-injects the treated, oxygenated water through the lower or bottom section of the treatment well back into the formation. The flow direction is facilitated by sectioning off the screen within the treatment well via the integrated packer assembly.



The Geotech Plume Eater® is available in two diameters.
(Lengths may vary, explained below)

The 2-Inch Plume Eater® is designed for deployment in standard 2-inch schedule 40 PVC recovery wells. The largest outside diameter measures 1.75-inches, without the packer inflated.

The 4-Inch Plume Eater® is designed for deployment in standard 4-inch schedule 40 PVC recovery wells. The largest outside diameter measures 3.25-inches, without the packer inflated.

Each Geotech Plume Eater® length varies based on actual recovery well parameters provided by the customer, prior to purchase. The Plume Eater® length should be pre-determined based on the depth of the recovery well, how the actual recovery well is constructed, and water table fluctuates within the recovery well.

The Geotech Plume Eater® is designed to work in vertical wells. Actual treatment flow rates will vary, and are dependent on the site specific geology. Flow to and from the Plume Eater® is observed when differential pressure is created within the Plume Eater® by airlifting the groundwater above the actual static water level. The observed rate of flow is determined by the height of the water column being lifted, as well as the formations permeability and porosity; allowing the treated water to be re-introduced into the subsurface.

Chapter 2: Standard System Components

The 2-Inch Plume Eater® Components:

- Plume Eater®, with attached packer-drop pipe assemblies and 2-inch slip fit well cap assembly.
 - Plume Eater® consists of “
 - Predetermined length of 1 1/2 -inch O.D., slotted, flexible, spiral wound schedule 40 PVC Tube.
 - Schedule 80 PVC cap and rubber sleeve, with brass quick connect and barbed fittings attached.
 - Air delivery line: 1/4 - Inch O.D., reinforced, chemical resistant (gasoline) rated, rubber hose.
 - Packer inflation line: 1/4 - Inch O.D., reinforced, chemical resistant (gasoline) rated, rubber hose. Stainless steel hose clamp.
 - Treated water return line: 5/8 - Inch O.D., reinforced, chemical resistant (gasoline) rated, rubber hose. Stainless steel hose clamp.
 - Teflon™ coated 3/32 - Inch O.D. stainless steel safety cable.
 - Packer – drop pipe assemblies consist of:
 - 2-inch stainless steel packer with Viton™ sleeve with 3/4 - inch slotted Schedule 40 PVC drop pipe.
 - Stainless steel safety cable eyelet, and hex locking nut
 - Stainless steel fitting, 1/4 - inch (m) barbed x 1/8 - inch (m) thread, for packer inflation line.
 - Stainless steel fitting, 3/8 - inch (m) barbed x 3/8 - inch (m) thread, for treated water return line.
 - Schedule 40 PVC, 3/4 - inch (F) threaded end, coupled to 36-inch slotted section of pipe, making up the drop pipe assembly
 - Standard slip fit well cap consists of:
 - 2-Inch schedule 80 PVC, machined plastic support disk with a rubber coupler and two steel worm gear clamps.
 - Brass, quick release coupling, self sealing, pressure fitting for packer inflation, male and female (set). Stainless steel hose clamp.
 - Brass, quick release coupling, non-sealing, air fitting for air delivery line, male and female (set). Stainless steel hose clamp.
 - Stainless steel safety cable eyelet and hex locking nut.

Optional Equipment:

- .2 µm or .5 µm Porous Centered, Stainless Steel Diffuser with 1/4" barbed end, and stainless steel hose clamp.
- Stainless Steel Screened Shroud Assembly for 2-Inch Plume Eater®, Schedule 80 PVC collection bag adapter, 100 µm bag filter and nylon fastener.

The 4-Inch Plume Eater® Components:

- 4-Inch Plume Eater®, with attached packer-drop pipe assemblies and 4-inch slip fit well cap assembly.
 - Plume Eater® consists of “
 - Predetermined length of 3 -inch O.D., slotted, flexible, spiral wound schedule 40 PVC Tube
 - Schedule 80 PVC cap, with pass through holes for hoses and attached vent line barb.
 - Air delivery line: 1/2 - Inch O.D., reinforced, chemical resistant (gasoline) rated, rubber hose.
 - Packer inflation line: 1/2 - Inch O.D., reinforced, chemical resistant (gasoline) rated, rubber hose. Stainless steel hose clamp.
 - Treated water return line: 1 1/4 – inch O.D., flexible, spiral wound schedule 40 PVC Tube. Stainless steel hose clamp.
 - Teflon™ coated 3/32- Inch O.D. stainless steel safety cable.
 - Packer – drop pipe assemblies consist of:
 - 4-inch stainless steel packer with Viton™ sleeve with 3/4 - inch slotted Schedule 40 PVC drop pipe.
 - Stainless steel safety cable eyelet, and hex locking nut
 - Stainless steel fitting, 1/2 - inch. (m) barbed x 1/2 - inch (m) thread, for packer inflation line.
 - Stainless steel fitting, 1 - inch (m) barbed x 1 – inch (m) thread, for treated water return line.
 - Schedule 40 PVC, 3/4 - inch (F) threaded end, coupled to 36-inch slotted section of pipe, making up the drop pipe assembly
 - Standard well cap consists of:
 - 4-Inch schedule 80 PVC, machined plastic support disk with a rubber coupler and two steel worm gear clamps.
 - 1-Inch schedule 40 PVC Threaded Plug.
 - Brass, quick release coupling, self sealing, pressure fitting for packer inflation, male and female (set). Stainless steel hose clamp.
 - Brass, quick release coupling, non-sealing, air fitting for air delivery line, male and female (set). Stainless steel hose clamp.
 - Stainless steel safety cable eyelet and hex locking nut.

Optional Equipment

- .2 µm or .5 µm Porous Centered, Stainless Steel Diffuser with 1/4” barbed end, and stainless steel hose clamp.
- Stainless Steel Screened Shroud Assembly for 4-Inch Plume Eater®, Schedule 80 PVC collection bag adapter, 100 µm bag filter and nylon fastener.

Operating Parameters:

	<u>2-inch System</u>	<u>4-inch System</u>
Standard Air Requirements (PSIG)	5 – 35 PSIG	5 – 35 PSIG
Standard Air Requirements (SCFM)	1 – 5 SCFM	1 – 5 SCFM
Minimum Required Submergence	8 feet	8 feet
Maximum Outer Housing Length	35 feet	50 Feet

Chapter 3: System Installation and Operation



Wear proper eye and face protection when working with compressed air. Loose debris or objects could become projectiles causing serious injury.

The Plume Eater® you have purchased was configured to fit a predefined treatment well. Each Plume Eater® is manufactured individually to meet the application requirements or treatment well specifications that were provided at the time of the order.

1. When deploying the Plume Eater®, make sure the slotted PVC return line, or optional stainless steel shroud assembly is securely attached to the bottom of the stainless steel packer.
2. The next step is to re-insure that the support cable is securely attached to the well cap, all visible airlines are securely fastened and clamps are in place and tightened. Once these steps have been completed the Plume Eater® is ready for deployment into the treatment well.
3. With the treatment well open, raise the packer assembly to the proper height so that the slotted PVC return pipe or optional stainless steel shroud assembly will fit vertically into the well without being bent or flexed. Slowly lower the Plume Eater® assembly into the well until the well cap is in place on top of the treatment well. Tighten well cap fasteners until a secure seal is created against the well pipe.
4. Attach a regulated air source to the packer inflation fitting atop the well cap and inflate the packer to 50 psi(g) and disconnect the air source.
5. Once the packer is inflated, connect the Plume Eater® air line to a regulated and flow controlled air source.
 - (A). Adjust the air source pressure to the calculated psi(g) to overcome the static head pressure (See example below).
1 psi will overcome 2.3 ft. of water column (W.C.). So if you have 10 ft. of water column over your air line you would need minimum 4.34 psi(g) to start the air flow process. It is recommended that the pressure is set at least 5 psi(g) higher than the calculated pressure needed. This will help if the groundwater being treated is considered to be *hard water* and help overcome the additional pressure caused by any mineral deposits that accumulate at the air line.
 - (B). The next step is to regulate the flow to between 1 – 5 scfm. This flow setting is where the Plume Eater® has demonstrated to operate efficiently.
6. The Plume Eater® should be checked regularly. Between site visits, If a noticeable flow drop is recorded without the loss of any applied pressure, it might indicate cleaning is needed.

Chapter 4: System Maintenance

The Plume Eater® will require routine maintenance based on the site conditions. If a noticeable loss of flow has been recorded without the applied pressure dropping, this might be an indication of air line/diffuser fouling, due to minerals or debris in the groundwater. The Plume Eater® will have to be removed from the treatment well and cleaned.

Removal and cleaning procedures:



Wear proper eye and face protection when working with compressed air. Loose debris or objects could become projectiles causing serious injury.

1. Turn off the air supply to the Plume Eater® and carefully release any stored pressure on the air supply line before disconnecting it from the well cap fitting.
2. Carefully release the pressure from the packer line at the well cap using packer line fill fitting. Attach the female fitting side to the male fitting side and vent to atmosphere to relieve the stored pressure.



Wear proper protective clothing. It is possible the Plume Eater can be coated with Iron, minerals or natural occurring biological growth from the treatment process. If the Plume Eater is too heavy for you to safely remove it by yourself, please seek additional assistance to prevent personal injury.

3. Using the safety cable loop at the top of the well cap, pull up gently until the tubing is exposed.
4. Grasp the tubing and safety cable firmly and begin to slowly lift the Plume Eater® from the recovery well. **Use caution to not lose your grip it is possible that the Plume Eater® or air lines are coated with iron, minerals or natural occurring biological growth from the treatment process.** This could result in damage to the recovery well, Plume Eater® or on-site personnel working with the equipment.
5. Once the Plume Eater® is safely removed, stretch the system out and rinse off the outside of the Plume Eater®, removing any materials or debris, it is important to complete this process before removing the outer flexible PVC housing.
6. If required, disconnect the well cap and associated fittings from the air supply line and packer inflation line to allow the outer flexible PVC line removal. Clearly mark or keep record of where each line was originally connected.
7. Remove the two screws/fasteners at the bottom of the Flexible PVC and packer.

8. Secure the packer assembly and pull the Flexible PVC back to expose the air supply line and diffuser element. **(Note this process may require two people to complete.)** If the air line or diffuser element is clogged with minerals or debris, it can be cleaned with a mild acidic solution such as CLR or weak muriatic acid solution. When performing such operations please refer to the cleaning solution manufacturers recommendations for proper use, and correct personal protective gear.
9. Once the diffuser is cleaned, thoroughly rinse the inside of the Plume Eater as needed and inspect the return line for any blockage. If required, remove the upper cap on the Flexible PVC, by sliding the cap past the rubber hoses. This will expose the inside of the flexible PVC and hoses from the top for a more thorough inspection and cleaning.
10. Once cleaned reassemble the Plume Eater® and redeploy into the treatment well. If the packer assembly needs repaired, it will have to be removed from the tubing, hoses and safety cable prior to sending it in to Geotech for service. The packer is not a field serviceable item. Call Geotech for a Return Authorization Number (RMA)
See RMA section of this manual.

Chapter 5: Replacement Parts List

4-Inch Plume Eater®

Part Number

16700011	Rubber Hose, 1/4" ID x 1/2" OD
16700019	Rubber Hose, 3/8" ID x 5/8" OD
16700010	Spiral Wound PVC Hose, 1.5"
77051004	Teflon Coated Stainless Steel Safety Cable, 1/16 x 3/32
26700014	Porous Diffuser, .2µm
26700015	Porous Diffuser, .5µm
86700006	Stainless Steel Screened Filter Bag Assembly (Complete)
16700015	Nylon, Filter Bag, 100µm (Bag only- sold individually)

4-Inch Plume Eater®

16700011	Rubber Hose, 1/4" ID x 1/2" OD
16700013	Spiral Wound PVC Hose, 1"
77051004	Teflon Coated Stainless Steel Safety Cable, 1/16 x 3/32
16700001	Spiral Wound PVC Hose, 2.5"
26700015	Porous Diffuser, .5µm
86700006	Stainless Steel Screened Filter Bag Assembly (Complete)
16700014	Nylon, Filter Bag, 100µm (Bag only- sold individually)

The Warranty

For a period of one (1) year from date of first sale, product is warranted to be free from defects in materials and workmanship. Geotech agrees to repair or replace, at Geotech's option, the portion proving defective, or at our option to refund the purchase price thereof. Geotech will have no warranty obligation if the product is subjected to abnormal operating conditions, accident, abuse, misuse, unauthorized modification, alteration, repair, or replacement of wear parts. User assumes all other risk, if any, including the risk of injury, loss, or damage, direct or consequential, arising out of the use, misuse, or inability to use this product. User agrees to use, maintain and install product in accordance with recommendations and instructions. User is responsible for transportation charges connected to the repair or replacement of product under this warranty.

Equipment Return Policy

A Return Material Authorization number (RMA #) is required prior to return of any equipment to our facilities, please call 800 number for appropriate location. An RMA # will be issued upon receipt of your request to return equipment, which should include reasons for the return. Your return shipment to us must have this RMA # clearly marked on the outside of the package. Proof of date of purchase is required for processing of all warranty requests.

This policy applies to both equipment sales and repair orders.

FOR A RETURN MATERIAL AUTHORIZATION, PLEASE CALL OUR SERVICE DEPARTMENT AT 1-800-833-7958

Model Number: _____

Serial Number: _____

Date: _____

Equipment Decontamination

Prior to return, all equipment must be thoroughly cleaned and decontaminated. Please make note on RMA form, the use of equipment, contaminants equipment was exposed to, and decontamination solutions/methods used.

Geotech reserves the right to refuse any equipment not properly decontaminated. Geotech may also choose to decontaminate equipment for a fee, which will be applied to the repair order invoice.